(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 22 December 2005 (22.12.2005)

PCT

(10) International Publication Number WO 2005/121521 A2

(51) International Patent Classification⁷: F01P

(21) International Application Number:

PCT/JP2005/006988

(22) International Filing Date: 5 April 2005 (05.04.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 2004-112629

7 April 2004 (07.04.2004) JP

(71) Applicant (for all designated States except US): TOY-OTA JIDOSHA KABUSHIKI KAISHA [JP/JP]; 1, Toy-ota-cho, Toyota-shi, Aichi, 4718571 (JP).

(72) Inventors; and

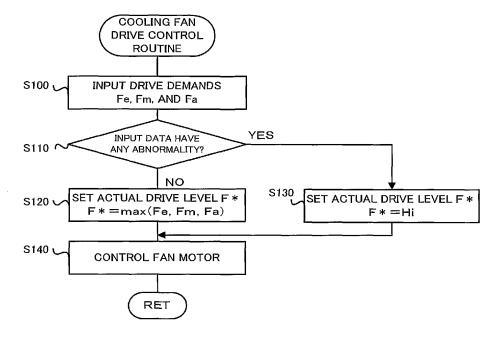
(75) Inventors/Applicants (for US only): ANDO, Ikuo [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). HARADA, Osamu [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). KOBAYASHI, Yukio [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-cho,

Toyota-shi, Aichi, 4718571 (JP). YAMAGUCHI, Katsuhiko [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). ICHIMOTO, Kazuhiro [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). NISHIGAKI, Takahiro [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). ANDO, Daigo [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). TOMATSURI, Mamoru [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP). HASEGAWA, Keiko [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP).

- (74) Agent: ITEC INTERNATIONAL PATENT FIRM; Uchisaiwaicho Dai Bldg., 3-3, Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-0011 (JP).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

[Continued on next page]

(54) Title: COOLING SYSTEM, CONTROL METHOD OF THE SAME, AND MOTOR VEHICLE



(57) Abstract: The technique of the invention determines whether input data for driving and controlling a cooling fan have any abnormality (steps S100 and S110), sets an actual drive level F^* of the cooling fan to a high level (Hi) in the event of detection of any abnormality (step S130), and controls a fan motor to drive the cooling fan at the set drive level F^* (step S140). This arrangement effectively prevents a temperature rise to an abnormally high level in any of an engine and motors even in the event of any abnormality arising in the input data.

WO 2005/121521 A2

T BELLE BUNDEN I BELLE HEN BENN BELLE BUN IN DE HELE HELE HELE BURE HELE HEL HEL BUREN BELLE HEL

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.